greater presence of *Fusarium* in river water could be due to soil particles and organic matter content from run-off of the river banks after rainfall events. The presence of species found in the sea could be the consequence of river water flowing into the sea. Nevertheless, other explanations cannot be excluded.

GROWTH OF *FUSARIUM* SPECIES AS AFFECTED BY TEMPERATURE AND OSMOTIC POTENTIAL (NaCl AND KCl) INTERACTIONS. D. Palmero[1], M. de Cara[2], C. Iglesias[1] and J.C. Tello[2]. *[1]Universidad Politécnica de Madrid, EUIT Agrícola, Ciudad Universitaria s/n. 28040 Madrid, Spain. [2]Universidad de Almería, Departamento de Producción Vegetal. Cañada de San Urbano s/n.; 04120 Almería, Spain. E-mail: daniel.palmero@upm.es*

Myceliar growth of 90 *Fusarium* strains of *F. acuminatum, F. chlamydosporum, F. culmorum, F. equiseti, F. verticillioides, F. oxysporum, F. proliferatum, F. solani* and *F. sambucinum* isolated from fluvial channels and sea beds of the south-eastern coast of Spain was tested on potato-dextrose-agar adjusted to different matric potentials with either KCl or NaCl (from -1.50 to -144.54 bars). Fungal growth was determined by measuring colony diameter in four days time, with a temperature of incubation from 15 to 35ºC. Myceliar growth was maximal at 25ºC. Quantity and frequency pattern of myceliar growth of *Fusarium* species were sensitively different at 15 and 25ºC, with the maximum growth at the lower water potential tested (- 1.50 bars); and the 35ºC pattern, with a maximum of myceliar growth at -13.79 bars. Results show how the effect of osmotic potential was independent of the salt type. The general pattern emerging was that isolates showed declining growth at potentials below -41.79 bars. Significant statistical differences were found in myceliar response to water potential and temperature separately and to their interactions. Growing frequencies were progressive minor as the water potential dropped, but growth was registered at -99.56 bars. The response to the salinity of the media has a markedly specific behaviour. *F. solani, F. oxysporum, F. proliferatum, F. equiseti* and *F. verticillioides* growing pattern changes with the temperature. It was observed how fungal growth of seabed isolates at 35ºC was favoured with salt addition in the first or second osmotic pressure tested. These results could indicate that some *Fusaria* have the capacity of metabolic adaptation to low water potential environments. Differences founded between frequency and growth quantity could indicate that biological factors that determine the growing capacity and those that determine the final growth after 4 days of incubation are affected in different ways by water potential.

DIVERSITY OF FUMONISIN-PRODUCING *FUSARIUM* STRAINS ISOLATED FROM FRENCH CORN. L. Pinson-Gadais, G. Marchegay, C. Ducos, F. Turtaut, C. Barreau and F. Richard-Forget. *UR 1264 Mycologie et Sécurité des Aliments, Institut National de la Recherche Agronomique, 33883 Villenave d'Ornon, France. E-mail: lpinson@bordeaux.inra.fr*

In Europe, the occurrence of fumonisins B (FB) on maize is mainly ascribed to *Fusarium verticillioides* and *F. proliferatum*. Although the risk is correlated with some *Fusarium* species, it also depends on the ability of strains to produce toxins. Controlling the mycotoxin risk requires to assess the diversity of fumonisins producers. Eighty-five strains of the *Liseola* section were isolated from French corn harvests in 2004 and 2006: *F. verticillioides* (63), *F. proliferatum* (12), *F. subglutinans* (10). The strains were grown on autoclaved corn (25°C, 1 a_w, 21 days) and their ability to produce fumonisins was assessed. This characterisation indicated that *F. verticillioides* and *F. proliferatum* strains were able to produce fumonisins, mainly FB1. A high diversity in the levels of toxins was observed (19 to 4500 ppm). Our data suggest that *F. proliferatum* strains produce less fumonisins than *F. verticillioides* strains. Among the 10 *F. subglutinans* strains studied, six were shown to produce low levels of FB1. It was investigated if this variability in levels of produced toxins could be linked with differences inside the sequences of the *FUM* gene cluster. For *F. verticillioides* and *F. proliferatum* strains, whatever the considered gene or intergenic sequences studied, no differences were observed between high and low FB1 producers. None of the *FUM* genes and intergenic regions studied was amplified for the 10 *F. subglutinans* strains, although some were characterised as toxigenic. This result suggests that the *FUM* genes of *F. subglutinans* strains are largely different from that of *F. verticillioides* and *F. proliferatum.*

***FUSARIUM* spp. ASSOCIATED WITH LEAF LITTER FROM MABIRA TROPICAL FOREST, UGANDA. S. Serani and H.K. Taligoola.** *Makerere University, Department of Botany, Faculty of Science, P.O. Box 7062 Kampala, Uganda. E-mail: serasn@yahoo.com*

Fungi may live as saprobes, which bring about decay of organic materials or as parasites, which attack living organisms thus causing disease of plants and animals. Fungi perform essential roles in every terrestrial ecosystem, as decomposers of dead organic matter; releasing nutrients and supporting plant life. Leaf litter at different stages of decomposition was collected from the forest floor under a canopy of known tree species in Mabira Tropical Forest in Central Uganda. A number of *Fusarium* species were isolated from leaf litter of four different tree species, i.e. *F. lateritium, F. semitectum, F. solani, F. graminearum, Nectria* sp. The tree species were *Ficus valis, Celtis* sp., *Cola gigantica* and *Chrysophyllum* sp. Most of the species were isolated in the second and third stage of decomposition and there was no significant difference in isolation frequency for the tree species.

GENETIC VARIABILITY OF A *FUSARIUM SEMITECTUM* POPULATION ISOLATED FROM *MEDICAGO SATIVA* L. CULTIVATED IN AN UNIQUE FIELD IN NORTHERN ITALY. M. Zaccardelli[1], M. Carelli[2] and V. Balmas[3]. *[1]CRA, Centro di Ricerca per l'Orticoltura, Gruppo di Ricerca di Battipaglia, SS 18 204, 84091 Battipaglia (SA), Italy. [2]CRA, Centro di Ricerca per le Produzioni Foraggere e Lattiero-Casearie, Viale Piacenza 29, 26900 Lodi, Italy. [3]Dipartimento di Protezione delle Piante, Università degli Studi, Via E. De Nicola 9, 07100 Sassari, Italy. E-mail: massimo.zaccardelli@entecra.it*

Fusarium semitectum Berk. & Ravenel is often isolated from soil and plant tissues, where it can be associated to complex diseases. It has been reported as pathogenic when inoculated on different hosts, however it is not considered as an important plant pathogen. During summer and autumn 1998, several isolates of *F. semitectum* were obtained from diseased alfalfa (*Medicago sativa* L.) cultivated in different fields in the Po Valley (Northern Italy). The plants showed chlorosis and wilting symptoms. A population of *F. semitectum*, providing from an unique alfalfa field in Po Valley (Lodi district), were analysed for DNA polymorphism to study genetic variability of the fungus from an unique host in a very restricted cultivation area. Isolations were performed on potato dextrose agar (PDA) and on Komada's substrate from basal portions of alfalfa stem. Monosporic cul-